

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of synthesizing a crystalline material, comprising the steps of:

- a) producing seeds (6) of a catalyst adapted to dissolve carbon on a substrate[[ (2)]] constituted by a first material;
- b) growing carbon nanotubes[[ (6)]] from the seeds[[ (6)]]; and
- c) producing a layer of a second material comprising at least one monocrystalline region [[(12) ]]orientated from a seed[[ (6)]].

2. (Currently Amended) A method according to claim 1 in which, during step b), the seeds[[ (6)]] are orientated in a magnetic field.

3. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which the first material is an amorphous material.

4. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which the catalyst comprises a transition metal.

5. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which the second material is silicon.

6. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which step c) comprises the following sub-steps:

c1), during which the second material[[ (10)]] is deposited in an amorphous form on the substrate[[ (2)]] and seeds[[ (6)]] located at the tops of carbon nanotubes[[ (8)]]; then

c2), during which the second material is crystallized in the solid phase.

7. (Currently Amended) A method according to ~~one of the preceding claims~~ claim 1, in which step a) comprises the following sub-steps:

a1), during which studs[[ (4)]] of ~~second material~~ catalyst are produced on the substrate; then

a2), during which the substrate[[ (2)]] and the studs[[ (4)]] are annealed to form seeds [[(6)]].

8. (Currently Amended) A method according to ~~one claims 1 to 6~~ claim 1, in which step a) comprises the following sub-steps:

a'1), during which a thin film constituted by ~~second material~~ catalyst is deposited on the substrate[[ (2)]]; then

a'2), during which the substrate[[ (2)]] and the thin film are annealed to form seeds[[ (6)]].

9. (Currently Amended) A method according to ~~one claims 1 to 6~~ claim 1, in which step a) comprises the following sub-steps:

a''1), during which metal ions are implanted into a thin layer[[ (30)]];

a''2), during which the thin layer[[ (30)]] into which ions have been implanted is annealed to form metallic precipitates[[ (31)]] from the implanted ions;

a''3), during which selective attack of the thin layer[[ (30)]] is carried out to cause metallic precipitates, which will form seeds[[ (6)]], to appear on the surface.

10. (Currently Amended) A method according to ~~one of claims 7 to 9~~ claim 7 in which, during steps a2), ~~a'2) or a''2)~~, a magnetic field is applied to orientate the seeds[[ (6)]].

11. (Currently Amended) A method according to ~~one of claims 1 to 6~~ claim 1, in which step a) comprises the following sub-steps:

a'"1), of depositing a layer of masking resin[[ (40)]] on the thin layer[[ (30)]], of producing motifs in the resin[[ (40)]]], and of etching the thin layer[[ (30)]] at the motifs to form pits[[ (41)]];  
a'"2), of depositing the ~~second material catalyst~~ catalyst;  
a'"3), of dissolving resin[[ (40)]]; and  
a'"4), of annealing the thin layer[[ (30)]] and ~~second material catalyst~~ catalyst in the pits[[ (41)]] to form seeds[[ (6)]].

12. (Currently Amended) A material comprising:

a substrate[[ (2)]] constituted by a first material extending essentially in a plane; carbon nanotubes[[ (8)]] extending longitudinally essentially perpendicular to the plane of the substrate[[ (2)]] between a free end and an end which is fixed to the substrate[[ (2)]]; seeds[[ (6)]] of a catalyst substantially located near the free end of carbon nanotubes[[ (8)]]; and  
at least one domain[[ (12)]] of a second crystalline material orientated from at least one seed[[ (6)]].

13. (New) A method according to claim 8 in which, during step a'2), a magnetic field is applied to orientate the seeds.

14. (New) A method according to claim 9 in which, during step a'"2), a magnetic field is applied to orientate the seeds.